GA-5EASV-RH Pentium[®] 4/D Processor Motherboard

USER'S MANUAL

Pentium[®] 4/D Processor Motherboard Rev. 1001 12ME-5EASVRH-1001R



The WEEE marking on the product indicates this product must not be disposed of with user's other household waste and must be handed over to a designated collection point for the recycling of waste electrical and electronic equipment!! The WEEE marking applies only in European Union's member states.

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Item Checklist

- ☑ The GA-5EASV-RH motherboard
- ☑ IDE (ATA100) cable x 1 / Floppy cable x 1
- ☑ CD for motherboard driver & utility
- ☑ GA-5EASV-RH user's manual
- Serial ATA cable x 4
- ☑ I/O Shield Kit
- SATA Power cable x 4



Computer motherboards and expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

- 1. Unplug your computer when working on the inside.
- 2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.
- Hold components by the edges and try not touch the IC chips, leads or connectors, or other components.
- 4. Place components on a grounded antistatic pad or on the bag that came with the components whenever the components are separated from the system.
- 5. Ensure that the ATX power supply is switched off before you plug in or remove the ATX power connector on the motherboard.

Installing the motherboard to the chassis...

If the motherboard has mounting holes, but they don't line up with the holes on the base and there are no slots to attach the spacers, do not become alarmed you can still attach the spacers to the mounting holes. Just cut the bottom portion of the spacers (the spacer may be a little hard to cut off, so be careful of your hands). In this way you can still attach the motherboard to the base without worrying about short circuits. Sometimes you may need to use the plastic springs to isolate the screw from the motherboard PCB surface, because the circuit wire may be near by the hole. Be careful, don't let the screw contact any printed circuit write or parts on the PCB that are near the fixing hole, otherwise it may damage the board or cause board malfunctioning.

Chapter 1 Introduction

1.1 Features Summary

Form Factor	• 9.6" x 9.6" m ATX form factor, 4 layers PCB.
CPU	Supports single Intel® Pentium® 4/Pentium® D processor
	 Intel Pentium[®] Dual Core in LGA 775 socket
	 Supports 800/1066MHz FSB
	L2 cache on-die per processor from 4M
Chipset	Intel [®] 3000 Chipset
	 Intel[®] ICH7R
Memory	• 4 x DDRII DIMM sockets
	 Supports up to 8GB 533/667 memory
	Dual Channel memory bus
	ECC Unbuffered DDRII 533/667
	 Supports 512MB, 1GB, 2GB and 4GB memory
I/O Control	ITE IT8718F Super I/O
Expansion Slots	 Supports 2 PCI slots 32-Bit/33MHz (5V)
	 Supports 1 PCI-Express x8 slot
	 Supports 1 PCI-Express x4 slot (in x8 slot)
SATA RAID Controller	 Built in Intel[®] ICH7R with Software RAID 0,1,10, 5
	 Supports 4 SATA 3.0 Gb/s connectors
On-Board Graphic	XGI Volari Z7
	• 16MB SDRAM
On-Board Peripherals	1 ATA 100 connector
	 1 Floppyport supports 360K, 720K, 1.2M, 1.44M and
	2.88M bytes.
	• 2 PS/2 connectors
	 1 Parallel port supports Normal/EPP/ECP mode
	 2 Serial port (COM, 1 by cable)
	• 8 x USB 2.0 (4 by cable)
	1 VGA connector
	• 2 x LAN RJ45
	 4 x SATA connectors

Hardware Monitor	Enhanced features with CPU Vcore, 1.5V reference,
	VCC3 (3.3V), VBAT3V, +5VSB, CPUA/B Temperature, and
	System Temperature Values viewing
	CPU/Power/System Fan Revolution Detect
	CPU shutdown when overheat
	System Voltage Detect
On-Board LAN	Dual Intel [®] 82573GbE controllers
	Supports WOL, PXE
	• Flexible hardware design to switch remote transactions through
	IPMI interface
BIOS	Phoenix BIOS on 8Mb flash ROM
Special Features	Ehanced feature with GSMT Lite Utility
Additional Features	PS/2 Mouse wake up from S1 under Windows Operating System
	External Modem wake up
	 Supports S1, S4, S5 under Windows Operating System
	Wake on LAN (WOL)
	Wake on Ring (WOR)
	AC Recovery
	Supports Console Redirection
	Supports 4-pin Fan controller

	Inti

1.2 GA-5EASV-RH Motherboard Components

- 1. CPU
- 2. Intel Mukilteo-2
- 3. Intel ICH7R
- 4. XGI Volari Z7
- 5. Hynix 574U
- 6. ITE IT8718F
- 7. Intel 82573GbE
- 8. BIOS Flash
- 9. IDE Connector
- 10. Floppy Connector
- 11. COM2 Connector
- 12. Front USB1 Connector
- 13. Front USB2 Connector
- 14. SATA1 Connector
- 15. SATA2 Connector
- 16. SATA3 Connector
- 17. SATA4 Connector
- 18. UF1 (CPU Fan Connector)
- 19. UF2 (System Fan Connector)
- 20. UF3 (System Fan Connector)
- 21. Front Panel Connector

- 22. Auxiliary Power (ATX1)
- 23. Auxiliary Power (ATX 12V)
- 24. PCI1 Slot(32bit/33MHz)
- 25. PCI2 Slot(32bit/33MHz)
- 26. PCI-E x8 Slot
- 27. PCI-E x4 Slot
- 28. DIMM1
- 29. DIMM2
- 30. DIMM3
- 31. DIMM4
- 32. RJ45 LAN/USB ports
- 33. VGA Port
- 34. Parallel Port
- 35. COM Port
- 36. PS/2 Connectors
- 37. Battery

Introduction



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Chapter 2 Hardware Installation Process

2-1: Installing Processor and CPU Haet Sink



Before installing the processor and cooling fan, adhere to the following cautions:

- 1. The processor will overheat without the heatsink and/or fan, resulting in permanent irreparable damage.
- 2. Never force the processor into the socket.
- 3. Apply thermal grease on the processor before placing cooling fan.
- 4. Please make sure the CPU type is supported by the motherboard.
- 5. If you do not match the CPU socket Pin 1 and CPU cut edge well, it may damage the CPU. Please change the insert orientation.

2-1-1: Installing CPU

- Step 1 Raise the metal locking lever on the socket.
- Step 2 Remove the plastic covering on the CPU socket.
- Step 3 Lift the metal cover.
- Step 4 Insert the CPU with the correct orientation. The CPU only fits in one orientation.
- Step 5 Once the CPU is properly placed, please replace the metal cover and push the metal lever back into locked position.



2-1-2: Installing Heat Sink



Step 1.

Please apply heat sink paste on the surface of the installed CPU.





Place the heat sink on top the CPU and make sure the push pins align to the pin hole on the motherboard.Push down the push pins diagonally.



Step. 5

Please check the back side of teh motherboard. Make sure the push pin is seated firmly as the picture shown.



Step. 2

(to remove the heat sink, turning the push pin along the direction of arrow; and reverse the previous step to install the heat sink.) Please note the direction of arrow sign on the male push pin doesn't face inwards before installation. (This instruction is only for Intel boxed fan)



Step. 4

Please make sure the Male and Female push pin are brought together. (for detailed installation instructions, please refer to the heat sink installation section of the user manual)



Step 6.

Attach the power connector of the heat sink to the CPU fan header located on the motherboard. Heat sink installation is completed.

2-2: Install Memory Modules



Before installing the processor and heatsink, adhere to the following warning: When DIMM LED is ON, do not install/remove DIMM from socket.

GA-5EASV-RH has 4 dual inline memory module (DIMM) sokcets. It supports Dual Channels Technology. The BIOS will automatically detects memory type and size during system boot. For detail DIMM installation, please refer to the following instructions.



Size	Organization	RAM Chips/DIMM
256MB	8MB x 8 x 4 bks	8
	16MB x 4 x 4bks	16
512MB	16MB x 8 x 4bks	8
	32MB x 4 x 4bks	16
1GB	32MB x 8 x 4bks	8
	64MB x 4 x 4bks	16

Table 1. Supported DIMM Module Type

Installation Steps:

- 1. Unlock a DIMM socket by pressing the retaining clips outwards.
- 2. Aling a DIMM on the socket such that the notch on the DIMM exactly match the notch in the socket.
- 3. Firmly insert the DIMMinto the socket until the retaining clips snap back in place.
- 4. When installing the memory into the DIMM socket, we recommend to populate the memory as a pair. One in Channel A module and one in Channel B module for best performance. Please populate DIMM starting from Channel A (Yellow slot). Note that each logical DIMM must be made of two identical DIMMs having the same device size on each and the same DIMM size.
- 5. Reverse the installation steps if you want to remove the DIMM module.





Locked Retaining Clip

2-3: Connect ribbon cables, cabinet wires, and power supply

2-3-1 : I/O Back Panel Introduction



PS/2 Keyboard and PS/2 Mouse Connector

To install a PS/2 port keyboard and mouse, plug the mouse to the upper port (green) and the keyboard to the lower port (purple).

2/3/4 Parallel Port / Serial Port / VGA Port

This connector supports 1 standard COM port and 1 Parallel port. Device like printer can be connected to Parallel port ; mouse and modem etc can be connected to Serial port.

LAN Port / USB

Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker...etc. have a standard USB interface. Also make sure your OS supports USB controller. If your OS does not support USB controller, please contact OS vendor for possible patch or driver updated. For more information please contact your OS or device(s) vendors.

LAN LED Description

LED2	(Green/Yellow		Cruen)
Name	Color	Condition	Description
LED1	Green	ON	LAN Link / no Access
	Green	BLINK	LAN Access
	-	OFF	Idle
LED2	-	OFF	10Mbps connection
	Green	BLINK	Port identification with 10 Mbps connection
	Green	ON	100Mbps connection
	Green	BLINK	Port identification with 100Mbps connection
	Yellow	ON	1Gbps connection
	Yellow	BLINK	Port identification with 1Gbps connection

2-4: Connectors Introduction & Jumper Setting



- 1. ATX1
- 2. ATX2
- 3. IDE1 (IDE Connector)
- 4. FDC1 (Floppy Connector)
- 5. SATA 1 (SATA Connector)
- 6. SATA 2 (SATA Connector)
- 7. SATA 3 (SATA Connector)
- 8. SATA 4 (SATA Connector)
- 9. COM2
- 10. F_USB1 (Front USB Connector)
- 11. F_USB2 (Front USB Connector)

- 12. BAT1 (Battery)
- 13. UF1 (CPU Fan Connector)
- 14. UF2 (System Fan Connector)
- 15. UF3 (System Fan Connector)
- 16. F_Panel (Front Panel Connector)
- 17. CLR_CMOS (Clear CMOS)
- 18. PASSWORD1
- 19. BIOS_WP1
- 20. RECOVERY1

1) ATX1 (Auxukiary Power Connector)



AC power cord should only be connected to your power supply unit after ATX power cable and other related devices are firmly connected to the mainboard.

2) ATX2 (Auxuk	ciary +12V Power Connector

2) ATX2 (Auxukiary +12V Power Connector)

➤This connector (ATX +12V) is used only for CPU Core Voltage.

PIN No.	Definition
1	+3.3V
2	+3.3V
3	GND
4	+5V
5	GND
6	+5V
7	GND
8	РОК
9	5VSB
10	+12V
11	+12V
12	+3.3V
13	+3.3V
14	-12V
15	GND
16	PSON
17	GND
18	GND
19	GND
20	-5V
21	+5V
22	+5V
23	+5V
24	GND



r	
Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V

3) IDE1 (IDE Connector)

Please connect first harddisk to IDE1. The red stripe of the ribbon cable must be the same side with the Pin1.



4) FDC1 (Floppy Connector)

Please connect the floppy drive ribbon cables to FDD. It supports 720K,1.2M,1.44M and 2.88Mbytes floppy disk types. The red stripe of the ribbon cable must be the same side with the Pin1.



5/6/7/8) SATA 1~4 (Serial ATA Connectors)

You can connect the Serial ATA device to this connector, it provides you high speed transfer rates (150MB/sec).



1	Pin No.	Definition
	1	GND
띥	2	TXP
	3	TXN
	4	GND
Ľ	5	RXN
	6	RXP
7	7	GND

9) COM2





Pin No.	Definition
1	DCD-
2	SIN2
3	SOUT2
4	DTR2-
5	GND
6	DSR2-
7	RTS2-
8	CTS2-
9	RI2-
10	NC

10/ 11) F_USB1/2 (Front USB Connectors)

Be careful with the polarity of the front USB connector. Check the pin assignment carefully while you connect the front USB cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional front USB cable, please contact your local dealer.



CAUTION

Definition

Power

Power

USB Dx-

USB Dy-

USB Dx+

USB Dy+

GND GND

No Pin

NC

- Danger of explosion if battery is incorrectly replaced.
- Replace only with the same or equivalent type recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.
- If you want to erase CMOS...
- 1. Turn OFF the computer and unplug the power cord.
- 2. Remove the battery, wait for 30 second.
- 3.Re-install the battery.

0

0

0 0

4. Plug the power cord and turn ON the computer.

13) UF1 (CPU Fan Connectors)

Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating. The CPU fan connector supports Max. current up to 1A.



Pin No.	Definition
1	GND
 2	12V
3	Sense
4	Control

14/15) UF2/3/4/5 (System Fan Connectors)

This connector allows you to link with the cooling fan on the system case to lower the system temperature. These connectors are for system use only.



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16) F_Panel (2X12 Pins Front Panel connector)

Please connect the power LED, PC speaker, reset switch and power switch of your chassis front panel to the F_PANEL connector according to the pin assignment above.





Pin No.	Signal Name	Description
1.	PWLED+	Power LED Signal anode (+)
2.	5VSB	P5V Stand By Power
3.	KEY	Pin Removed
4.	ID_LED+	ID LED Signal anode (+)
5.	PWLED-	Power LED Signal cathode(-)
6.	ID_LED-	ID LED Signal cathode(-)
7.	HD+	Hard Disk LED Signal anode (+)
8.	F_SYSRDY	System Fan Fail LED Signal
9.	HD-	Hard Disk LED Signal cathode(-)
10.	F_SYSTATUS	System Status LED Signal
11.	PWB+	Power Button Signal anode (+)
12.	L1_ACT	LAN1 access LED Signal
13.	PWB+_GND	Power Button Ground
14.	L1_LNK-	LAN1 linked LED Signal cathode(-)
15.	RST_BTN-	Reset Button cathode(-)
16.	SENSOR_SDA	SMBus Data
17.	RST_BTN_GND	Reset Button Ground
18.	SENSOR_SCL	SMBus Clock
19.	ID_SW-	ID Switch Signal cathode(-)
20.	CASE_OPEN-	Chassis intrusion Signal
21.	ID_SWGND	ID Switch Ground
22.	L2_ACT	LAN2 access LED Signal
23.	NMI_SW-	NMI Switch cathode(-)
24.	L2_LNK-	LAN2 linked LED Signal cathode(-)

17) CLR_CMOS1 (Clear CMOS Function)

You may clear the CMOS data to restore its default values by this jumper.

Default value doesn't include the "Shunter" to prevent from improper use this jumper. To clear CMOS, temporarily short 1-2 pin.



18) PASSWORD1 (Skip Password Function)

19) BIOS_WP1 (BIOS Write Protect Function)

20) RECCOVERY1 (BIOS Recovery Function)

2-5: Block Diagram

Chapter 3 BIOS Setup

BIOS Setup is an overview of the BIOS Setup Program. The program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

ENTERINGSETUP

Power ON the computer and press <F2> immediately will allow you to enter Setup.

CONTROLKEYS

< ^ >	Move to previous item
<↓>	Move to next item
< ← >	Move to the item in the left hand
< > >	Move to the item in the right hand
<esc></esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and
	Option Page Setup Menu - Exit current page and return to Main Menu
<+/PgUp>	Increase the numeric value or make changes
<-/PgDn>	Decrease the numeric value or make changes
<f1></f1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<f2></f2>	Reserved
<f3></f3>	Reserved
<f4></f4>	Reserved
<f6></f6>	Reserved
<f7></f7>	Reserved
<f8></f8>	Reserved
<f9></f9>	Load the Optimized Defaults
<f10></f10>	Save all the CMOS changes, only for Main Menu

GETTINGHELP

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

Main

This setup page includes all the items in standard compatible BIOS.

Advanced

This setup page includes all the items of AMI special enhanced features.

(ex: Auto detect fan and temperature status, automatically configure hard disk parameters.)

• Security

Change, set, or disable password. It allows you to limit access the system and setup.

• Server

Server additional features enabled/disabled setup menus.

Boot

This setup page include all the items of first boot function features.

• Exit

There are five options this selection: Exit Saving Changes, Exit Discarding Changes, Load Optimal Defaults, Load Failsafe Defaults, and Discard Changes.

Main

Once you enter Phoenix BIOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

	Phoenix cME	FirstBIOS Pro	Setup Ut	ility
	Hain Advanced Secur	ity Server	Boot	Exit
•				
		-	1	Item Specific Help
	System Time:	[22:38:04]		
	System Date:	[09/05/2005]		
5				<tab>, <shift-tab>, or </shift-tab></tab>
5	Legacy Diskette H:	L1-44/1-25 MB	3/-1	<enter> selects field.</enter>
	Legacy Diskette B:	Disabledi		
١.,	Petrony IDF Manton	Diama1		
14	Primary IDE Daster	Disma1		
13	The Secondary/Master	Dissol		
15	IDE Secondaru/Slaue	[None]		i
i í	The accountry office.	the second s	- i	i
i১	Advanced Processor Outions		i	i
i i			i	i
1	Language :	(English (US)	1 1	1
L		-	1	1
1			1	1
1			1	1
1			1	1
+				+
	Help Select Item	Change U	alues	S Setup Defaults

Figure 1: Main

🗢 System Time

The time is calculated based on the 24-hour military time clock. Set the System Time (HH:MM:SS)

🗢 System Date

Set the System Date. Note that the "Day" automatically changed after you set the date. (Weekend: DD: MM: YY) (YY: 1099~2099)

∽ Legacy Diskette A/B

This category identifies the type of floppy disk drive A that has been installed in the computer.

- ► Disabled Disable this device.
- ⇒ 360KB, 5^{1/4} in. 3^{1/2} inch AT-type high-density drive; 360K byte capacity
- ▶ 1.2MB, 3^{1/2} in. 3^{1/2} inch AT-type high-density drive; 1.2M byte capacity
- ▶ 720K, 3^{1/2} in. 3^{1/2} inch double-sided drive; 720K byte capacity
- ▶ 1.44M, 3^{1/2} in. 3^{1/2} inch double-sided drive; 1.44M byte capacity.
- \blacktriangleright 2.88M, 3^{1/2} in. 3^{1/2} inch double-sided drive; 2.88M byte capacity.

Note: The 1.25MB,3^{1/2} reference a 1024 byte/sector Japanese media format. The 1.25MB,3^{1/2} diskette requires 3-Mode floppy-disk drive.

☞ IDE Primary Master, Slave / Secondary Master, Slave, Parallel ATA

The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and manual type. Manual type is user-definable; Auto type which will automatically detect HDD type.

Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

➡ TYPE

1-39: Predefined types.Users: Set parameters by User.Auto: Set parameters automatically. (Default Vaules)CD-ROM: Use for ATAPI CD-ROM drives or double click [Auto] to set all HDD parameters automatically.ATAPI Removable: Removable disk drive is installed here.

Multi-Sector Transfer

This field displays the information of Multi-Sector Transfer Mode. Disabled: The data transfer from and to the device occurs one sector at a time. Auto: The data transfer from and to the device occurs multiple sectors at a time if the device supports it.

₩	LBA Mode	This field shows if the device type in the specific IDE channel
		support LBA Mode.
₩	32-Bit I/O	Enable this function to max imize the IDE data transfer rate.
₩	Transfer Mode	This field shows the information of Teansfer Mode.

▶ Ultra DMA Mode This filed displays the DMA mode of the device in the specific IDE channel.

🗢 Language

This category allows user to select prefered language.

➤Options English, Francais, Deutsch, Espanol, Italiano.

Advanced Processor Options

navenceu Trocessor (ins I Item Specific Help
CPU Speed Processor 1 CPUID: Core Multi-Processing: Set Max Ext CPUID = 3 Cannot_Find_String C1 Enhanced Mode IntelOR Virtualization Tech No Execute Mode Men Protecti Processor Power Management:	(D) Select 'Yes'.HIDS will 2.60 GHz clear historical Disabled processor status and Enabled retest all processors i on next boot. Disabled [(Cannot_Find] (Enabled] IDisabled [Disabled] (Enabled] (Enabled] (E

Figure 1-1: Advanced Processor Option

∽ Advanced Processor Option

This category includes the information of CPU Speed, and Processor 1 CPUID. Setup menu for C1 Enhanced Mode, and No Execute Mode Memory Protection.

∽Processor Reset

→ Yes	Select 'Yes' BIOS will clear historical processor status and reset all		
	processors on next boot.		
▶ No	Disables Processor Reset function. (Default value)		

∽Core Multi-Processing

Determines whether the 2nd core is enabled.

➡ Enabled	Enable 2nd core.
➡ Disabled	Disables P2nd core.

∽Set Max Ext CPUID = 3

Set MAX CPUID extended function value to 3.

Enabled	Enable Set Max	Ext CPUID =	3 function.

➡ Disabled Disable this function. (Default value)

∽C1 Enhanced Mode

With enabling C1 Enhanced Mode, all loical processors in the physical processor have entered the C1 state, the processor will reduce the core clock frequency to system bus ratio and VID.

- ➡ Enabled Enabled C1 Enhanced Mode.
- ➡ Disabled Disables C1 Enhanced Mode. (Default value)

Intel (R) Virtualization Technology

Intel(R) Virtualization Technology will allow a platform to run multiple operating systems and applications in independent partitions. With virtualization, one computer system can function as multiple "virtual" systems. With processor and I/O enhancements to Intel's various platforms, Intel Virtualization Technology can improve the performance and robustness of today's software-only virtual machine solutions.

➡ Enabled	Enabled VT Feature.
➡ Disabled	Disables VT Feature. (Default value)

∽No Execute Mode Mem. Protection

► Enabled	Enable No Execute Mode Memory Protection function. (Default value)
➡ Disabled	Disables No Execute Mode Memory Protection function.

∽Processor Power Management

Select the Power Management desired:

- ➡ Enabled C states and GV1/GV3 are enabled.
- ➤ C States Only GV1/GV3 are disabled.
- ➡ GV1/GV3 Only C states are disabled. (Default value)
- Disabled C states and GV1/GV3 are disabled.

Advanced

About This Section: Advanced

With this section, allowing user to configure your system for basic operation. User can change the processor options, chipset configuration, PCI configuration and chipset control.

			Phoe	nix c	E Firs	stBIOS Pr	o Setup Ut	tility	
- Ma i	n I	Adva	nced	Secu	rity	Serve	r Bool	t Đ	cit
> Hen > PCI > SIO > Adv > Har Boo Res Nun Men Mul	Confi ITE87 anced dware et Con Lock: ory/Pr tiproc	gura 18F Chip Moni Dia figu oces	nces tion CONFIGU set Con tor gnostic ration 1 sor Erro r Speci	RATION trol Scree Data: or: Ficati	m: 	Enabled] [No] [Auto] [Boot] [1.4]	<u>- 533</u>	Iter 	a Specific Help ional setup to configure y devices.
17.4					_			-	

Figure 2: Advanced

Memory Configuration

Phoenix cME FirstBIOS Pro Setup Utility			
Advanced			
Henory Co	nfiguration	I	Item Specific Help
Installed memory Available to OS Used by devices	2048 MB 2046 MB 2 MB	l IC Is	lears the memory error l tatus.
DINM Group #1 Status: DINM Group #2 Status: DINM Group #3 Status: DINM Group #4 Status: Record Rotest: Extended 2000 Status:	Not Installed 1024 MB Not Installed 1024 MB (705)		
l l l	(F134F16F1		
I		1	I
F1 Help to Select I Esc Exit Select I	Item -/+ Char Menu Enter Selo	nge Values sct > Sub-Menu	F9 Setup Defaults F10 Save and Exit

Figure 2-1: Memory Configuration

∽Installed Memory/Available to OS/Used by devices/DIMM Group 1,2,3,4 Status

These category is display-only which is determined by POST (Power On Self Test) of the BIOS.

∽Memory Reset

→ Yes	Select 'Yes', system will clear the memory error status. Save the
	changes and restart system. After rebooting system, the Memory
	Reset item will set to 'No' automatically.
▶ No	Disable this function. (Default value)

Creater Contract Cont

► Enabled	Enable test extended memroy process.
➡Disabled	Disable this function. (Default value)

BIOS Setup

PCI Configuration

Phoentx cHE FirstHIDS Pro S	etup Utility
PCI Configuration	Item Specific Help
<pre>I - Intended FIE I PCI Slot 1 Option RDM: (Enabled) I PCI Slot 2 Option RDM: (Enabled) I PCI Slot 3 Option RDM: (Enabled) I PCI Slot 4 Option RDM: (Enabled) I I I I I I I I I I I I I I I I I I I</pre>	 Additional setup menus to configure embedded LAM controller.
El Help 'o Select Itee -/- Change Ua Esc Exit Select Menu Enter Select >	lues F5 Setup Defaults Sub-News F10 Save and Exit

Figure 2-2: PCI Configuration

∽Embedded NIC

- Onboard LAN Control
- ➡ Enabled Enable onboard LAN device. (Default value)
- ➡ Disabled Disable this function.
- Option ROM Scan
- ► Enabled Enableing this item to initialize device expansion ROM.
- ➡Disabled Disable this function. (Defualt value)

∽PCI Slot 1/2/3/4 Option ROM

➡ Enabled	Enableing this item to initialize device expansion ROM.		
	(Defualt value)		

➡Disabled Disable this function.
SIO ITE8718F Configuration

Phoemix cME FirstBIOS Pro Setup Utility	
Advanced	
SIO ITEB718F CONFIGURA	TION Item Specific Help
Serial port H:	Unitation : Configure serial port H I
Base 1/U address/10Q:	Liftsi : Lusing options: I
Service Lorente Br	(Fachlad) (Dischlad)
Base T40 address (TPO)	(200) I Ma confirmation
Dase 1/0 address/1MQ:	L2P6J :1 No contriguration I
Barallal meets	(Fashlad) (Fashlad)
Mada:	[Bi_directions]] linen_configuration
Doge T 40 a d damage	LB1-directionalist user contriguration i
Dase 1/0 address:	13703 11
Interrupt:	11100 13 11
12/2 Norma	(Fashlad)
Farz nouse	LENADIEGI ,I
USB Controllor:	[Enabled]
USB 2.9 Controllor	(Disabled) al
Con 2.0 Controller	
*	
F1 Help ^u Select Item -/+	Change Values PS Setup Defaults
Esc Exit Select Menu Ente	r Select > Sub-Menu F10 Save and Exit
	Server and Holling The Barry will Brite

Figure 2-3: SIO ITE8718F Configuration

∽Serial Port A

This allows users to configure serial prot A by using this option.

- ► Enabled Enable the configuration (Default value)
- ► Disabled Disable the configuration.

Base I/O Address/IRQ

₩3F8	Set IO address to 3F8.	(Default value)
▶2F8	Set IO address to 2F8.	
▶3E8	Set IO address to 3E8.	

▶ 2E8 Set IO address to 2E8.

∽Serial Port B

This allows users to configure serial prot B by using this option.

- ► Enabled Enable the configuration
- Disabled Disable the configuration.(Default value)

Base I/O Address/IRQ

- ➡ 3F8 Set IO address to 3F8.
- ▶2F8 Set IO address to 2F8. (Default value)
- ➡ 3E8 Set IO address to 3E8.
- ▶2E8 Set IO address to 2E8.

∽Parallel Port

This allows users to configure parallel port by using this option.

► Enabled	Enable the configuration.
► Disabled	Disable the configuration. (Default value)

► Mode

This option allows user to set Parallel Port transfer mode.

➡Bi-directional	Use this setting to support bi-directional transfers on the parallel port. (Default value)
▶ EPP	Using Parallel port as Enhanced Parallel Port.
► ECP	Using Parallel port as Extended Capabilities Port.

Þ	Base I/O Address	
		-

▶378	Set IO address to 378
▶278	Set IO address to 278.

	Iterrupt	
--	----------	--

₩IRQ5	Set Interrupt as IRQ5. (Default value)
▶IRQ7	Set Interrupt as IRQ7. (Default value)

∽PS/2 Mouse

Set this option 'Enabled' to allow BIOS support for a PS/2 - type mouse.

➡ Enabled	'Enabled' forces the PS/2 mouse port to be enabled regardless if a
	mouse is present. (Default value)
➡Disabled	'Disabled' prevents any installed PS/2 mouse from functioning,
	but frees up IRQ12.

∽USB Controller

This item allows users to enable or disable the USB device by setting item to the desired value.

Enabled	Enable USB controller. (Default value)
<u>.</u>	

➡ Disabled Disbale this function.

∽USB 2.0 Controller

This item allows users to enable or disable the USB 2.0 device by setting item to the desired value.

➡ Disabled Disbale this function. (Default value)

CLegacy USB Support

This option allows user to function support for legacy USB.

- ➡ Enabled Enables support for legacy USB (Default Value)
- ➡ Disabled Disables support for legacy USB

∽Route Port 80h cycles to

Set route port 80h cycles to either PCI or LPC bus.

PCI Set Route Port 80h I/O cycles to the PCI bus. (Default Value)
 LPC Set Route Port 80h I/O cycles to the LPC bus.

∽Parallel ATA

➡ Enabled	Enable Parallel ATA. (Default value)
➡ Disabled	Disable the device.

∽Serial ATA

- ► Enabled Enables on-board serial ATA function. (Default Value)
- ➡ Disabled Disables on-board serial ATA function.

▶ Native Mode Operation

This option allows user to set the native mode for Serial ATA function.

- ► Auto Auto detected. (Default value)
- Serial ATA Set Native mode to Serial ATA.

► SATA Controller Mode Option

➡ Compatible Mode	SATA and PATA drives are auto-detected and placed in
	Legacy mode. (Default value)
► Enhanced Mode	SATA and PATA drives are auto-detected and placed in
	Native mode.

Note: Pre-Win2000 operating system do not work in Enhanced mode.

▶ SATA AHCI Enable

➡ Enabled	Set this item to enable SATA AHCI function for WinXP-SP1+IAA
	driver supports AHCI mode.

➡ Disabled Disabled this function.

▶ SATA RAID Enable

- ► Enabled Enabled SATA RAID function.
- ► Disabled Disable this function.

Advanced Chipset Control

Advanced Chij	set Control	I Item Specific Help
Enable Sullimetra Time PCI Express Sub-Menu PCI Device	(<u>10</u>)	I I Enable/Disable I Multimedia Timer I support.
Wake On LAN/PHE Wake On Ring Wake On RTC Alarm	(Enabled) (Disabled) (Disabled)	

Figure 2-4: Advanced Chipset Control

∽Enable Multimedia Timer

➡ Enabled	Enable Multimedia Timer support.
➡ Disabled	Disable this function. (Default value)

∽PCI Express Sub-Menu

These items are for debugging the PCI-Express Ports.

∽PCIDevice

▶ PCI IRQ Line 1/2/3/4

When ACPI device cannot use IRQs already in use by ISA or EISA devices. Use 'Auto Select' only if no ISA or EISA legacy cards are installed.

► Auto Select	Auto selecting PCI IRQ lines. (Default value)
▶ 3,4,5,7,9,10,11,12,14,15	Select specify PCI IRQ lines.
Disabled	Disable this function

∽Wake On LAN/PME

This option allow user to determine the action of the system when a LAN/PME wake up event occurs.

► Enabled	Enable Wake On LAN/PME. (Default value)
Disabled	Disable this function.

Note: This item must enabled if you're running under Windows operating system.

∽Wake On Ring

This option allow user to determine the action of the system power is off and the modem is ringing.

➡ Enabled	Enable Wake On Ring. (Default value)
► Disabled	Disable this function.

Note: This item must enabled if you're running under Windows operating system.

∽Wake On RTC Alarm

When "RTC Alarm Resume" item is set to enabled, system will wakeup from RTC. (This item will be functionalized under ACPI OS)

► Enabled	Enable alarm function to POWER ON system.				
	(Default value)				
Disabled	Disable this function.				
Note: This item must enabled if you're running under Windows operating system.					

Hardware Monitor



Figure 2-5: Hardware Monitor

∽ CPU/Motherboard/DDR Temperature

→ Display the current CPU temperature, Motherboard, and Ambient temperature.

∽ Voltage Monitor: DDR1V8, VCC3, VCORE, 12V2, 5V

➡ Detect system's voltage status automatically.

∽ FAN Monitor: System 1/2/3 (RPM)

▶ Display the current System FAN 1/2/3 speed.



BIOS Setup

Phoenix cME FirstBIOS Pro Setup	Utility
Main Advanced Security Server Br	ot Exit
Nature Network Security Security I > Demons Configuration I > PCI Configuration I > SIO ITEB718F CONFIGURATION I > Advanced Chipset Control I > Hardware Monitor I Boot-time Diagnostic Screem: I Reset Configuration Data: I NumLock: I Memory/Processor Error: I Multiprocessor Specification: I 1	I Item Specific Help Additional setup menus to configure Memory devices.
F1 Help 'v Select Item -/+ Change Values	F9 Setup Defaults
Esc Exit Select Menu Enter Select > Sub-P	Menu F10 Save and Exit

∽Boot -time Diagnostic

When this item is enabled, system will shows Diagnostic status when system boot.

- ✤ Enabled Enable Boot-time Diagnostic.
- ➡ Disabled Disable this function. (Default value)

∽Reset Configuration Data

- ► No Do not make any changes. (Default value)

•NumLock

This option allows user to select power-on state for NumLock.

- ✤ On Enable NumLock.
- ➤ Off Disable this function.

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∽Memory Processor Error

When Boot is selected, the system will attempt to boot after a memory or proocessor error occured.

- Boot System attempts to boot if a memory or proocessor error cooured. (Default value)
- Halt System will stop if an error is detected during power up.

∽Multiprocessor Specification

This option allows user to configure the multiprocessor(MP) specification revision level. Some operating system will require 1.1 for compatibility reasons.

- ▶ 1.4 Support MPS Version 1.4. (Default value)
- ▶ 1.1 Support M PS Version 1.1.

Security

About This Section: Security

In this section, user can set either supervisor or user passwords, or both for different level of password securities. In addition, user also can set the virus protection for boot sector.



Figure 3: Security

∽Set User Password

You can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Type the password up to 6 characters in lengh and press <Enter>. The password typed now will clear any previously entered password from the CMOS memory. You will be asked to confirm the entered password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a specified password.

∽Set Supervisor Password

You can install and change this options for the setup menus. Type the password up to 6 characters in lengh and press <Enter>. The password typed now will clear any previously entered password from the CMOS memory. You will be asked to confirm the entered password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a specified password or press <Enter> key to disable this option.

Password on boot

Password entering will be required when system on boot.

- ➡ Enabled Requries entering password when system on boot.
- ➡ Disabled Disable this function. (Default value)

~Fixed disk boot sector

- →Write Protect Write protects boot sector on harddisk to protect against virus.
- ► Normal Set the fixed disk boot sector at Normal state. (Default value)

∽Diskette access

Control access to diskette drives.

- ➡ User Requires user's password to access floppy drives.
- Supervisor Requires supervisor's password to access floppy drives. (Default value)

BIOS Setup

Server

		Phoen	nix cM	E FirstB	IOS Pro	Setup Ut	tility			
Main	Adva	nced	Secu	rity	Server	Boot	t Ex	it		
Conso Event Asser Post AC-LI Mini Mini	n Hanage le Redir Log Con t NMI on Error Pa NK: BMC Func BMC SEL	ection Figurat SERR: use: tion Viewer	ion [[[Enabled] Enabled Last Sta Enabled] Enter]	tel		Additi view s featur	onal se erver r es.	fic Help etup menu nanagment	
F1 H Esc E	elp 🗽 xit	Select	Iten Nem	-/+ Enter	Change Select	Values > Sub-Mer	F9 m F10	Setup Save a	Defaults and Exit	8

Figure 4: Server

System Management

System Ranagement	I Item Specific Help
BLOS Version: SEXSU/SEXSH-EBb	All items on this mean cannot be modified in user mode. If any items require changes please consult your system Supervisor.

Figure 4-1: System Management

∽Server Management

This category allows user to view the server management features. Including information of **BIOS Version**. All items in this menu cannot be modified in user's mode. If any items require changes, please consult your system supervisor.

Console Redirection

Phoenix cME FirstBIOS Pro Setup Utility				
	S	erver		
Conso 1	e Redirection	I	Item Specific Help	
BIOS Redirection P Band Rate: Terminal Type: Flow Control Comsole connection Continue C.R. after	ort: [<u>Serial P</u> [19.2K] [UT100+] [CTS/RTS] : [Direct] r POST: [Du]	vrt f) Se te re di ct 	elects the Serial port i o use for Console Redi- ection. Disabled" completely isables Console Redire- tion.	
F1 Help ^o v Sele Esc Exit Sele	ctIten -/+ Ch ctMenu Enter Se	inge Values lect > Sub-Menu	PS Setup Defaults F10 Save and Exit	

Figure 4-2: Console Redirection

Solution BIOS Redirection Port

If this option is set to enabled, it will use a port on the motherboard.

- ➡ On-board COMA Use COMA as he COM port address.
- Disabled Disable this function. (Default value)

Note: Tower has COMA and COMB.

🗢 Baud Rate

This option allows user to set the specified baud rate.

➡Options	300, 1200, 2400, 96	600, 19.2K, 38.4K, 57.6K, 115.2K.
----------	---------------------	-----------------------------------

🗢 Terminal Type

 ➡ Options
 VT100, VT100 8bit, PC-ANSI 7bit, VT100+, VT-UTF8

∽ Flow Control

This option provide user to enable the flow control function.

- None Not supported.
- ➤ XON/OFF Software control.
- ➡ CTS/RTS Hardware control. (Default value)

∽ Console connection

This field indicates whether the console is connected directly to the system or a modem is used to connect.

- ➡ Direct Console is connected directly to the system. (Default value)
- Disabled Console is connected via the modem.

∽ Continue C.R. after POST

This option allows user to enable console redirection after O.S has loaded.

- ► On Enable console redirection after O.S has loaded.
- ►Off Disable this function. (Default value)

Event Log Configuration



Figure 4-3: Event Log Configuration

Event Log Confuguration

This option contains additional setup menu to configure the Event Log Configuration.

- Clear all Event Logs
- ►Enter The system event log will be cleared if pressing Enter.

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Phoenix	cME FirstBIOS Pro	Setup Utility
Main Advanced Se	ourity Server	Boot Exit
<pre>> Sector Management > Console Redirection > Event Log Configuration Assert MMI on SERR: Post Error Pause: AC-LINK: Mini BMC Function Mini BMC SEL Viewer</pre>	(Enabled) (Enabled) (Last State) (Enabled) (Enter)	I Item Specific Help Additional setup menu to Uview server managment I features.
F1 Help 'v Select Ite Ese Exit Select Men	m -/• Change w Enter Select)	Values PS Setup Defaults > Sub-Menu P10 Save and Exit

∽ Post Error Pause

If this item is set to enabled, the system will wai for user intervention on critical POST errors. If this item is disabled, the system will boot with no intervention if possible.

- ► Enabled Enable Post Error Pause. (Default value)
- ➡ Disabled Disable this function.

∽ Assert NMI on SERR

If thisoption is set to enabled, PCI bus system error (SERR) is enabled and is routed to NMI.

- ► Enabled Enable Assert NMI on SERR. (Default value)
- ➡ Disabled Disable this function.

∽AC-LINK

This option provides user to set the mode of operation if an AC / power loss occurs.

- ▶ Power On System power state when AC cord is re-plugged.
- Stay Off Do not power on system when AC power is back.
- ► Last State Set system to the last sate when AC power is removed. Do not power on system when AC power is back. (Default value)

∽ Mini BMC Function

► Enabled	Enable Mini BMC function. (Default value)
	Disable this function.

This option will disappear and disable when BMC module is populated.

∽ Mini BMC SEL View

Press [Enter] to view the Mini BMC SEL.



GA-5EASV-RH Motherboard

Boot

		Phoe	nix cMB	E Firs	tBIOS Pro) Setup	Util	ity		
Main	Adva	nced	Secu	rity	Server	Be	oot	Ex	cit	
Boot 1: 2: 3: 4: 5: 6: 7: 8: Exclu	priority Legacy aded from PCI BEV Legacy I	order: Toppy boot o : IBA G Network	Secu Drives Cder: E Slot Card	0300	v1230		Dot 	ieys u config p and elect *> an he de enous x> ex he de 1 - 4 oot s	sed to view pure devices 1 Down arrow t a device. ad <-> moves vice up or ad <r> speci vice fixed able. aclude or in wice to boo > Loads def sequence</r>	lelp i or i: down- fies or iclude it- ault
F1	Help 🕥	Select	Iten	-/+	Change	Values		F9	Setup Defa	ults

Figure 5: Boot

œBoot Priority Order

This field determines which type of device the system attempt to boot from after **PhoenixBIOS Post** completed. Specifies the boot sequence from the available devices. If the first device is not a bootable device, the system will seek for next available device.

Key used to view ot configure devices:

Up and Down arrows select a device.

- <+> and <-> moves the device up or down.
- <f> and <r> specifies the device fixed or removable.
- <x> exclude or include the device to boot.
- <1-4> Loads default boot secquence.

BIOS Setup

Exit

				Phoen	ix cME	FirstBI	OS Pro	Setup Ut	ility	
Ha	in	- 1	idvan	ced	Securi	ty	Server	Boot	Exi	t
		0							Item	Specific Help
Б	it	Disca	urdin	g Chang	89				P. 14 P.	- I 0 I I
i Di	ISC9	rd Cl	ange	au i ts S				1	save yo	ur changes to
1 59	WHE	chang	les						cnus.	
i i								1		
i –										
l										
l										
l										
1										
•										
F1 Esc	E	elp xit		Select	I tem Menu	-/+ Enter	Execut	: Values e Connan	P9 d F10	Setup Defaults Save and Exit

Figure 6: Exit

About This Section: Exit

Once you have changed all of the set values in the BIOS setup, you should save your changes and exit BIOS setup program. Select "Exit" from the menu bar, to display the following sub-menu.

- Exit Saving Changes
- ← Exit Discarding Changes
- Load Settup Default
- Discard Change
- Save Changes

◦ Exit Saving Changes

This option allows user to exit system setup with saving the changes. Press <Enter> on this item to ask for the following confirmation message: Pressing 'Y' to store all the present setting values tha user made in this time into CMOS. Therefore, whenyou boot up your computer next time, the BIOS will re-configure your system according data in CMOS.

	Phoenix cME F	irstBIOS Pro	Setup Ut	ility	
Hain Adva	anced Security	j Server	Boot	Exit	
Exit Saving (Exit Discard) Load Setup D Discard Chang Save Changes	Changes ing Changes efaults ges			Item Sp Exit Syste save your CMOS.	ecific Help em Setup and changes to
	Setu Sawe configurat I (<mark>768</mark>)	up Confirmat tion changes D	iom and exit Nol		
	Space Sel	lect	inter Ac	cept	

◦ Exit Discarding Changes

This option allows user to exit system setup without changing any previous settings values in CMOS. The previous selection remain in effect. This will exit the Setup Utility and restart your computer when selecting this option.

	Phoenix cME FirstBIOS Pr	o Setup Utility
Main Advance	d Security Serve	r Boot Exit
Exit Saving Chan Load Setup Defau Discard Changes	ges Changes Its	i Item Specific Help I I I Exit utility without I saving Setup data to
ave changes	I Setup Varni	ng I
1		
!	I Configuration has not Sound have and	been saved! I
i	I Save before exit	cing:
i	Yes	Diol I
!	*	
i		i
1		1
1		
• •		
	Space Select	Enter Accept

∽Load Settup Default

This option allows user to load default values for all setup items.

When you press <Enter> on this item, you will get a confirmation dialog box with a message as below:

P)	oemix cME First	BIOS Pro Setup) Utility		
Main Advanced	Security	Server B	loot I	Exit	
Exit Saving Change Exit Discarding Ch Loss Schup Belant Discard Changes Save Changes	s anges s		Ite Load for a	em Specific He default value all SETUP item	lµ s. s.
	Setup (Confirmation	i		i
	Load default	configuration	now?		
	(<u>188</u>)	0103			i
			-		
			i		
*	Space Select	Enter	Accept		

∽Discard Changes

This option allows user to load previos values from CMOS for all setup item.

When you press <Enter> on this item, you will get a confirmation dialog box with a message as below:

		Phoenix cM	E FirstB	IOS Pro Set	up Uti	ility	
	Main Advanc	ed Secu	rity	Server	Boot	Exit	
• 	Exit Saving Cha Exit Discarding Load Setup Defa Save Changes	nges Changes ults			 - 	Item Spe Load previ from CMOS items.	cific Help ous values for all SETUP
i.		i 3	Setup Co	nfirmation			
ł		l Load pro	evious c	onfiguratio	n now?		
H		1	l/es	[No]			
i I					I		
5							
i i					÷		
1					1		
! +							
		Space	Select	Ente	n Acc	æpt	

∽Save Changes

This option allows user to save setup dat ato CMOS.

When you press <Enter> on this item, you will get a confirmation dialog box with a message as below:

Ph	oenix cME FirstBIOS	Pro Setup Utilit	u .
Main Advanced	Security Ser	ver Boot	Exit
Exit Saving Change Exit Discarding Ch Load Setup Default Discard Changes Sere Changes	s ianges S] Sau CHC	tem Specific Help e Setup Data to S.
	Setup Confir	mation	
	Save configuration	changes now?	
	(Yes)	[No]	
			•
1			
1		i	
		1	
+			
	Space Select	Enter Accept	

Press [Yes] to save setup daya to CMOS.

INTEL RAID BIOS Configuration

Chapter 4 INTEL RAID BIOS Configuration

Configuring the Intel RAID BIOS

The Intel RAID BIOS setup lets you choose the RAID array type and which hard drives you want to make part of the array.

Entering the RAID BIOS Setup

1. After rebooting your computer, wait until you see the RAID software prompting you to press Ctrl + I. The RAID prompt appears as part of the system POST and boot process prior to loading the OS. You have a few seconds to press Ctrl + I before the window disappears.

Intel(F Copyri	Intel(R) Matrix Storage Manager option ROM V5.0.0.1011 ICH7R wRAID5 Copyright(C) 2003-04 Intel Corporation. All Rights Reversed.							
RAID None	RAID Volumes : None Defined.							
Physic Port 0	al Disks : Driver Model ST3120026AS	Serial # 3JT354CP	Size 111.7GB	Type/Status(Vol ID) Non-RAID Disk				
1	ST3120026AS	3JT329JX	111.7GB	Non-RAID Disk				
Press	Press <ctrl -="" 1=""> to enter Configuration Utility</ctrl>							

Press Ctrl + I. The Intel RAID Utility - Create RAID Volume window appears (as illustrated below).

	Intel(R) Matrix Storage Manager option ROM V5.0.0.1011 ICH7R wRAID5 Copyright(C) 2003-04 Intel Corporation. All Rights Reversed.								
I			[MAIN MI	enu]					
			1. Create RAID	Volume					
			2. Delete RAID 3. Reset Disks to	Volume Non-RAID					
			4. Exit	Non-KAID					
ĺ			=[DISK/VOLUME IN	FORMATION]					
	RAID	Volumes :							
	None	Defined.							
	Physic	al Dicks .							
	Port	Driver Model	Serial #	Size	Type/Status(Vol ID)				
	0	ST3120026AS	3JT329JX	111.7GB	Non-RAID Disk				
	1	ST3120026AS	Non-RAID Disk						
l									
		[↑↓]-Select	[ESC]-E	[ESC]-Exit					

Create RAID Volume

Press Enter under Create RAID Volume to set up RAID.

Intel(F) Matrix Storage Mana Copyright(C) 2003-04	ger option ROM V5.0.0.1011 ICH Intel Corporation. All Rights Rev	7R wRAID5 ersed.
	CREA Name : R RAID Level : R Disks : So Strip Size : 12 Capacity : 22	TE VOLUME MENU] AID_Volume0 AID0(Stripe) elect Disks 28KB 23.5 GB	
	C	reate Volume	
En to un	er a string between 1 a iquely identify the RA can not c	= [HELP] ===================================	i be used issitive and
[↑↓]-Change	[TAB]-Next	[ESC]-Previous Menu	[ENTER]-Select

After entering the Create Volume Menu, you can set disk name with 1~16 letters (letters cannot be special characters) under **Name** item.

After setting disk name, press Enter to select RAID Level.

Intel(R) Matrix Storage M Copyright(C) 2003	anager option ROM V5.0.0.1011 ICH7R wRAID5 04 Intel Corporation. All Rights Reversed.
[CR	EATE VOLUME MENU]
Name :	RAID_Volume0
RAID Level :	RAID0(Stripe)
Disks :	Select Disks
Strip Size :	128KB
Capacity :	223.5 GB
	Create Volume
	[HELP]
Choose the RAI	D level best suited to your usage model.
RAID0- Data striped as	cross multiple physical drives for performance.
RAID1- Data mirrored	across multiple physical drives for redundancy.
RAID0+1- Striped volume	whose segments are RAID 1 volumes. Requires
four hard drive	s. Functionally equivalent to RAID 0+1.
RAID5- Data and parit	y striped across three or more physical drives
for performan	ce and redundancy.
[↑↓]-Change [TAB]-Ne:	tt [ESC]-Previous Menu [ENTER]-Select

There are four RAID levels: RAID0(Stripe), RAID1(Mirror), RAID 0+1 (Striping + Mirroring) and RAID5. After selecting the RAID level, press **Enter** to select **Strip Size**.

The KB is a unit of Strip Size. You can set disk block size with this item. The disk block size can be set from 4KB to 128KB. After you set disk block size, press **Enter** to set disk **Capacity**.





Press Enter to enter Create Volume after setting disk capacity.

Press Enter under the Create Volume item.

Intel(R) Matrix Storage Copyright(C) 200	Manager option ROM V5.0.0.1011 ICH)3-04 Intel Corporation. All Rights Reve	7R wRAID5 ersed.
	CREATE VOLUME MENU]	
Name RAID Level Disks	: RAID_Volume0 : RAID0(Stripe) : Select Dicks	
Strip Size	: 128KB	.
Capacity	: 223.5 GB	
	Create Volume	
1	[HELP]	1
Press "EN	TER" to Create the specified volume	
[↑↓]-Change [TAB]-N	ext [ESC]-Previous Menu	[ENTER]-Select

An alert bar will be displayed warning you that all data on selected disks will be lost. Please press Y to complete the set-up of RAID.



After the completion, you will see the detailed information about the RAID, such as RAID level, disk block size, disk name and disk capacity, etc.

	Intel(R) Matrix Copyrigh	Storage Manager op t(C) 2003-04 Intel 0	tion ROM V. Corporation.	5.0.0.1011 ICI All Rights Re	H7R wRAI versed.	D5
		[MAIN 1. Create R 2. Delete R 3. Reset Dis 4. Exit	N MENU] = AID Volume AID Volume ks to Non-RA	AID		
		=[DISK/VOLUM	E INFORMA	TION]		
RAID ID	Volumes : Name	Leve	1	Strip	Size	Status
	RAID_Volume0	RAID(Stripe)	128KB	223.5GB	Normal	Yes
Physic	al Disks :					
Port 0 1	Driver Model ST3120026AS ST3120026AS	Serial # 3JT329JX 3JT354CP		Size 111.7GB 111.7GB	Type/Stat Member	us(Vol ID) Disk(0) Disk(0)
	[↑↓]-Select	[ES	C]-Exit		[ENTER]	Select Menu

Delete RAID Volume

If you want to delete a RAID volume, please select the **Delete RAID Volume** option. Press **Enter** key and follow the instructions on the screen.

Intel(R) Matrix S Copyright	torage Manager op (C) 2003-04 Intel C	tion ROM V5. Corporation. A	0.0.1011 ICI Il Rights Re	H7R wRAI versed.	D5
1	[MAIN	n menu j =			li l
	1. Create R. 2. Delete R. 3. Reset Dis 4. Exit	AID Volume <mark>AID Volume</mark> ks to Non-RAI	D		
	=[DISK/VOLUM	E INFORMAI	10N J====		
RAID Volumes :					
ID Name	Level	1	Strip	Size	Status
Bootable					
0 RAID_Volume0	RAID(Stripe)	128KB	223.5GB	Normal	Yes
Physical Disks :					
Port Driver Model	Serial #		Size	Type/Stat	us(Vol ID)
0 ST3120026AS	3JT329JX		111.7GB	Member	Disk(0)
1 ST3120026AS	3JT354CP		111.7GB	Member	Disk(0)
[↑↓]-Select	[ES	C]-Exit		[ENTER]	Select Menu

Chapter 5 Application Driver Installation

A. Intel Chipset Software Installation Utilities

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show a series of Setup Wizard dialog boxes. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

Installation Procedures:

- 1. The CD auto run program starts, **Double click** on "Intel Chipset Software Installation Utilities" to start the installation.
- 2. Then, a series of installation wizards appear. Follow up the wizards to install the drivers.
- 3. Setup completed, click "Finish" to restart your computer.

1. Autorun

GA-5EASV-RI Version	I Driver CD 1.0
Intel(R) Chipnet Software Installation Intel LAN Driver YGA Driver YGA Driver ICH7R BAID driver	w.Critta
Intel(#) Matrix Storage Manager	1. Click " Intel Chipse Software Installation Utilities" item.

2. InstallShield Wizard Welcome Window



3. License Aggremment

	License Agreement
int _e l.	Please read the following license agreement carefully. Pleas the Page Down is to view the rest of the agreement.
	NTEL SOFTWARE LICENSE AGREEMENT (DEM / HV / ISV Dratbuton & Single User)
	IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING. Do not use or load this software and any associated materials (collective), the "Saftware") unit you have carefully read the following larms and condition. By toadego or using the Saftware, pour agree to the larms of the Agreement. If you do not with to so agree, do not install ar use the Software.
	S. License Agreement, click "Yes".
	You must accept all the terms of the license agreement in order to continue the setup program. Do you accept the terms?
	A Read View Bit

4. Readme Information



5. Installation Complete. Restart Computer



B. Intel LAN Driver Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show a series of Setup Wizard dialog boxes. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

Installation Procedures:

- 1. The CD auto run program starts, **Double click** on "Intel LAN Driver" to start the installation.
- 2. Select "Install Driver.
- 3. System starts to install the LAN Driver automatically.
- 1. Autorun

0/4-5/2/4	Version 1.0
Intel(R) Chipnet Softw Intel LAN Driver VGA Driver ICH7R RAID driver	over Installation Collin
Intel(#) Matrix Storm	1. Click "Intel LAN Driver" item.
<u>DirectX 1.0C</u> Sdobe Accelost Boule Browne this CD	

2. Installation Wizard Welcom Window



3. License Agreement

License Agreeme	nt design former and sended.	
Prese read the re	soverg kerne agreeners careby.	
		1
INTEL	SOFTWARE LICENSE AGREEMENT (Final, License)	
IMPORT	ANT - READ BEFORE COPYING, INSTALLING OR USING.	
Do not use or load 'Software'') until	I this software and any associated materials (collectively, the you have carefully read the following terms and conditions. By	
oading or using th	he Software, you agree to the terms of this Agreement. If you	
to not wish to so.	agree, do not install or use the Software.	
to not wish to se	agree, do not install or use the Software.	
lo not wish to so <u>ICENSES</u> : Please	 Select 'I accept the term in the license 	-
to not wish to so <u>UCENSES</u> : Please Of groupt the term of do not accept th	3. Select 'I accept the term in the license agreement' and click 'Next'	-
4. Select Setup Type



Step 4. User can select either **Complete** or **Custom** Setup Types. **Complete** setup type allows users to Installs drivers, Intel PROSet for Windows* Device Manager, and Advanced Networking Services. **Custom** setup type embraces installing features and subfeatures user selects, including modern utilities, manage ment components and drivers. Recommended for advanced users.

5. Ready to instll program

🖥 Intel(R) PRO Netw	ork Connections - InstallShield Wizard	×
Ready to Install the I The wizard is ready to	Program begin installation.	
Click Install to begin th	ve netalation.	
If you want to neview and the wizard.	or change any of your installation settings, click Back. Click Cancel	to
	5. Click "Install" to start installation.	
www.		
	<gad. cano<="" inital="" td=""><td>ď</td></gad.>	ď

6. Installation Complete



C. XGI VGA Driver Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show a series of Setup Wizard dialog boxes. If not, please double click

the CD-ROM device icon in "My computer", and execute the setup.exe.

Installation Procedures:

- 1. The CD auto run program starts, Double click on "VGA Driver" to start the installation.
- 2. Double click on "Display Driver" item. Then, a series of installation wizards appear. Follow up the wizards to install the drivers.
- 3. Setup completed, click "Finish" to restart your computer.

1. Autorun

GA-5E	ASV-RH Driver CD Version 1.0
Intel(R) Chipset Soft Intel LAN Driver VGA Driver ICH7R RAID Science	mace Installation (1998)
Intel(R) Mateix Star	1. Click "VGA Driver" item.
<u>DirectX 1.0C</u> Adabe Acrobit Bend Browae this CD	•

2. Setup Wizard Window



3. InsallShield Wizard Window



4. Installaiton Wizard Completed



D. Intel ICH7R RAID Driver Installation

Installation Procedures:

- 1. The CD auto run program starts, **Double click** on "Intel ICH7R RAID Driver" to make a driver disk.
- 2. Select a folder refering to your operating system.
- 3. Insert a flopp disk in the floppy drive. Click on the self-extractor file.
- 4. System starts making a driver disk automatically.
- 5. Driver disk creation completed.
- 1. Autorun

GA-5EASI Vei	V-RH Driver CD rsion 1.0
Intel(R) Chipnet Software I Intel LAN Driver VGA Driver ICH7R RAID driver Intel(R) Matrix Storage So	unnellintion Collicy
DirectX #.0C	1. Click "Intel ICH7R RAID Driver" item.
Stelee Acrebat Beader Browne this CD	0

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- 2. Starting make a driver disk

3. Formatting and writing in floppy sidk

Formatting and writing disk	×
Drive A:	
Formatting	
Writing	
Verify	
6 %	
Cancel	

E. Matrix Storgae Manager Utility Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

Installation Procedures:

- 1. The CD auto run program starts, **Double click** on "Intel (R) Matrix Storage Manager" to start the installation.
- 2. Then, a series of installation wizards appear. Follow up the wizards to install the drivers.
- 3. Setup completed, click "Finish" to restart your computer.

1. Autorun

0.1-	Version 1.0
Intel(8) Chip	ret Software Installiation Collin
Intel LAN De	her
FG4 Driver	
ICH?R RAIL	in Stamme Manager
×	
Direct's 1.0C	1. Click "Intel(R) Matrix Storage
databas diseasta	

2. Setup Wizard



3. Warning Information



4. License Agreement



5. Readme Information

	Readme File Information
int _e l.	Refer to the Readme Re below to view system requirements and installation information. Press the Page Down key to view the rest of the file.
	Installation Readme for Initial(R) Matrix Storage Manages Relet to the system requirements for the operating systems: supported by Initial(R) Matrix Storage Manages This document trakes references to products developed by Initial These are some restrictions on how these products may be used, and what internation may be disclosed to oftens. Please read the Disclastes sections at the bottom of the document and contact your Initial Bid representative if you would like more information.
	5. Click "Next".
	c Back Med 3 Carcal

6. Installaiton Wizard completed



F. DirectX 9.0C Driver Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

Installation Procedures:

1. The CD auto run program starts, **Double click** on "Directx9.0C" to start the installation.

2. Then, a series of installation wizards appear. Follow up the wizards to install the drivers.

3.Setup completed, click "Finish" to restart your computer.

1. Autorun

GA-5EAS Ve	V-RH Driver CD rsion 1.0
Intel(R) Chipset Software Intel LAN Driver <u>VGA Driver</u> ICHTR RAID driver Intel(R) Matrix Storage M	Installation Collicy
DirectX 9.0C Adabe Acrobat Bender Bermar this CD	1. Click "DirectX 9.0C Driver" iten

2. License Agreement



3. Start Installaiton

DirectX Setup Install DirectX suntime component	. 🔛
DirectX 9.0 Runtime Install: This install package will exarch and update as necessary. It ma	for updated DirectX Runtime Components ty take a tew minutes.
To start installation, please click	s Next
	3. Click "Next" to start
	3. Click "Next" to start the installation .

4. Installaiton Wizard completed



Chapter 6 Appendix

Appendix : Acronyms

Acronyms	Meaning
ACPI	Advanced Configuration and Power Interface
APM	Advanced Power Management
AGP	Accelerated Graphics Port
AMR	Audio Modem Riser
ACR	Advanced Communications Riser
BBS	BIOS Boot Specification
BIOS	Basic Input / Output System
CPU	Central Processing Unit
CMOS	Complementary Metal Oxide Semiconductor
CRIMM	Continuity RIMM
CNR	Communication and Networking Riser
DMA	Direct Memory Access
DMI	Desktop Management Interface
DIMM	Dual Inline Memory Module
DRM	Dual Retention Mechanism
DRAM	Dynamic Random Access Memory
DDR	Double Data Rate
ECP	Extended Capabilities Port
ESCD	Extended System Configuration Data
ECC	Error Checking and Correcting
EMC	Electromagnetic Compatibility
EPP	Enhanced Parallel Port
ESD	Electrostatic Discharge
FDD	Floppy Disk Device
FSB	Front Side Bus
HDD	Hard Disk Device
IDE	Integrated Dual Channel Enhanced
IRQ	Interrupt Request

to be continued.....

Acronyms	Meaning
I/O	Input / Output
IOAPIC	Input Output Advanced Programmable Input Controller
ISA	Industry Standard Architecture
LAN	Local Area Network
LBA	Logical Block Addressing
LED	Light Emitting Diode
MHz	Megahertz
MIDI	Musical Instrument Digital Interface
MTH	Memory Translator Hub
MPT	Memory Protocol Translator
NIC	Network Interface Card
OS	Operating System
OEM	Original Equipment Manufacturer
PAC	PCI A.G.P. Controller
POST	Power-On Self Test
PCI	Peripheral Component Interconnect
RIMM	Rambus in-line Memory Module
SCI	Special Circumstance Instructions
SECC	Single Edge Contact Cartridge
SRAM	Static Random Access Memory
SMP	Symmetric Multi-Processing
SMI	System Management Interrupt
USB	Universal Serial Bus
VID	Voltage ID